

What is claimed is:

1. A method for therapeutically treating a mammal bearing a tumor, the method comprising administering to the mammal an effective amount of a therapeutic composition consisting essentially of Alt-1, wherein the mammal generates an immune response that comprises an antibody that specifically binds to an epitope of tumor-associated MUC1 that is different from the epitope of tumor associated MUC1 that is specifically bound by Alt-1.
2. The method of claim 1, wherein the binding agent is non-radiolabeled.
3. The method of claim 2, wherein Alt-1 and the tumor-associated MUC1 form a complex.
4. The method of claim 1, wherein the immune response is generated by the complex.
5. The method of claim 1, wherein the immune response also includes a T cell response.
6. The method of claim 1, wherein the mammal is a human.
7. The method of claim 1, wherein Alt-1 is administered intravenously.
8. The method of claim 1, wherein Alt-1 is administered subcutaneously.
9. The method of claim 1, wherein the binding agent is administered at a dosage of less than 8 mg/30 kg body weight.

10. The method of claim 1, wherein the binding agent is administered at a dosage of less than about 3 mg/30 kg body weight

11. The method of claim 1, wherein the binding agent is administered at a
5 dosage of about 2 mg/ patient.

12. The method of claim 1, wherein Alt-1 is non-radiolabeled.

13. The method of claim 1, wherein the mammal is a human.

15 14. The method of claim 1, wherein Alt-1 is administered intravenously or
subcutaneously.

15. The method of claim 1, wherein Alt-1 is administered at a dosage selected from the group consisting of less than 8 mg/30 kg body weight, less than about 3 mg/30 kg body weight, and about 2 mg/ patient.

5 16. A method for therapeutically treating a mammal bearing a tumor, the
method comprising administering to the mammal an effective amount of a
therapeutic composition consisting essentially of a binding agent that specifically
binds to an epitope of tumor-associated MUC1, wherein the mammal generates
an immune response that comprises an antibody that specifically binds to an
10 epitope of tumor-associated MUC1 that is different from the epitope of tumor
associated MUC1 that is specifically bound by the binding agent.

17. The method of claim 16, wherein the binding agent is non-radiolabeled.

18. The method of claim 16, wherein the binding agent is not a monoclonal
antibody selected from: HMPV, VU-3-C6, MF06, VU-11-D1, MF30, BCP8, DF3,
15 BC2, B27.29, VU-3-D1, 7540MR, MF11, Bc4E549, VU-11-E2, M38, E29, GP1.4,
214D4, BC4W154, HMFG-2, C595, Mc5 and A76-A/C7.

19. The method of claim 16, wherein the binding agent and the tumor-
associated MUC1 form a complex.

20. The method of claim 19, wherein the immune response is generated by the
20 complex.

21. The method of claim 16, wherein the immune response also includes a T
cell response.

22. The method of claim 16, wherein the binding agent is Alt-1.

23. The method of claim 16, wherein the mammal is a human.

25 24. The method of claim 16, wherein the epitope to which the binding agent
specifically binds comprises an immunological determinant that includes
carbohydrate.

25. The method of claim 16, wherein the binding agent is administered
intravenously.

5 26. The method of claim 16, wherein the binding agent is administered subcutaneously.

27. The method of claim 16, wherein the binding agent is administered at a dosage of less than 8 mg/30 kg body weight.

28. The method of claim 16, wherein the binding agent is administered at a
10 dosage of less than about 3 mg/30 kg of body weight.

29. The method of claim 16, wherein the binding agent is administered at a dosage of about 2 mg/patient.

30. A therapeutic composition consisting essentially of a non-radiolabeled binding agent that specifically binds to an epitope of tumor -associated MUC-1
15 and that is effective in therapeutically treating a mammal having a tumor that expresses a tumor-associated MUC-1.

31. A therapeutic composition comprising a binding agent, other than HMFG1, that specifically binds to an epitope of tumor -associated MUC-1 and
20 that is effective in therapeutically treating a mammal having a tumor that expresses a tumor-associated MUC-1.

32. A therapeutic composition comprising a binding agent that specifically binds to both soluble and tumor-bound tumor -associated MUC-1 and that is
25 effective in therapeutically treating a mammal having a tumor that expresses a tumor-associated MUC-1.

33. The therapeutic composition according to claim 36, wherein the binding agent is not a monoclonal antibody selected from : HMPV, VU-3-C6, MF06, VU-11-D1, MF30, BCP8, DF3, BC2, B27.29, VU-3-D1, 7540MR, MF11, Bc4E549, VU-11-
30 E2, M38, E29, GP1.4, 214D4, BC4W154, HMFG-2, C595, Mc5 and A76-A/C7.

5 34. A binding agent that binds immunological determinants from amino acid residues of a peptide having the amino acid sequence DTRPAP.

35. A binding agent which binds the same epitope as Alt-1.

36. Alt-1.

10

37. A therapeutic composition comprising a binding agent selected from the group consisting of the binding agent according to claim 34, the binding agent according to claim 35 and Alt-1.

15 38. A therapeutic composition comprising an activated binding agent that specifically binds to an epitope of tumor -associated MUC-1 and that is effective in therapeutically treating a mammal having a tumor that expresses a tumor-associated MUC-1.

20 39. The therapeutic composition according to claim 37, wherein the binding agent is photoactivated.

40. The therapeutic composition according to claim 31, wherein the binding agent is coupled to a photodynamic agent.

25

41. The therapeutic composition according to claim 40, wherein photodynamic agents include hypocrellins and hypocrellin derivatives.